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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
ELAHEE, MD S

ART UNIT	PAPER NUMBER
2645	7

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/927,945

Applicant(s)

SHIN, HYUN KI

Examiner

Md S Elahee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: regarding claim 1, the acronym "FPC" used in the claim should be spelled out. Appropriate correction is required.

Regarding claim 1, the phrase "therethrough" on line 5 of the claim appears to be "there through". Appropriate correction is required.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Drawings

3. New corrected drawings are required in this application because the fig.4b does not have any labels to identify the different elements of the drawing. Applicant is advised to employ the

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services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Marked-up Drawings" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrases "the surface" in line 3 of the claim, "the middle" in line 5 of the claim, "the bottom" in line 9 of the claim, "the front" in line 10 of the claim, "the inner" in line 12 of the claim are indefinite, because the phrases lack sufficient antecedent basis.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Murray et al. (U.S. Patent No. 6,011,699).

Regarding claim 1, Murray teaches that the top housing 102 (i.e., second housing 100) comprises, on the surface facing the bottom housing 108 (i.e., first housing 200), a second knuckle 2220 (i.e., 110) defining a second hinge aperture 2223 (i.e., 111) serving as a rotation axis and an inner rotation surface 2226 (i.e., opening hole 113) in the middle of an inner sidewall of the second knuckle 2220, and formed leading into the second hinge aperture 2223 (abstract; fig.1, 2, 22, 23, 25; col.13, lines 21-51, 66, 67, col.14, lines 1-7).

Murray further teaches that the bottom housing 108 (i.e., first housing 200) comprises first knuckles 206 (i.e., 210) at both ends defining a first hinge aperture 2207 (i.e., 211) that is directed to the direction of the second hinge aperture 2223 for connection to the second knuckle 2220, and a slot 2208 (i.e., first slot 212) extending from the bottom of one of the first knuckles toward the front surface of the bottom housing (fig.1, 2, 22, 23; col.13, lines 21-32, 66, 67, col.14, lines 1-7).

Murray further teaches a shaft 2210 (i.e., projecting part 120) being formed at one end of the second knuckle 2220 to rotatably insert into the inner periphery of the first hinge aperture 2207, a structure being formed at the other end, which allows installation of hinge spring

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assembly 3806 (i.e., 115) used for opening and closing of the folder type mobile communication terminal (abstract; fig.22, 23, 38; col.13, lines 33-42, col.14, lines 14-32, col.20, line 66-col.21, line 5).

Regarding claim 2, Murray teaches that the depth of insertion of the shaft 2210 formed at one end of the second knuckle 2220 into the first hinge aperture 2207 is so sized that the bottom and top housings 108 and 102 (i.e., first and second housings 200, 100) are assembled with ease and do not break off during openings and closings thereof (fig.22, 23; col.14, lines 14-46).

Regarding claim 3, Murray teaches that the shaft 2210 and the FPC passage route of the second hinge aperture 2223, have a shaft slot 2218 (i.e., second slot 114) serving as a passageway for FPC's connection part 316 (i.e., 151), the shaft slot 2218 allowing the FPC's connection part 316 that is wider than the diameter of the second hinge aperture 223 to pass there through (fig.22, 23; col.14, lines 14-32).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murray et al. (U.S. Patent No. 6,011,699) and in view of Wilcox et al. (U.S. Patent No. 5,628,089).

Regarding claim 4, Murray teaches that the opposite parts of the shaft 2210 and the FPC passage route of the second hinge aperture 2223, have a guide additionally serving as a guideway

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for FPC's connection part 316, the guide preventing the FPC's connection part 316 from being damaged during passing the second hinge aperture 2223 (fig.22, 23, 25; col.14, lines 14-46). (Note: the opposite parts of the shaft 2210 is inherently a guide for the FPC's connection part 316)

However, Murray art fails to teach "a subsidiary guide slot 116 additionally serving as a guideway for FPC's connection part 151, said subsidiary guide slot 116 preventing said FPC's connection part 151 from being damaged". Wilcox teaches a guides 437 (i.e., subsidiary guide slot 116) additionally serving as a guideway for rails 417 (i.e., FPC's connection part 151), the guides 437 preventing the rails 417 from being damaged during passing the surface 465 (i.e., second hinge aperture 111) (fig.3, 4; col.3, lines 36, 37, 41-54, col.4, lines 1-10). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Murray to allow a subsidiary guide slot 116 additionally serving as a guideway for FPC's connection part 151, the subsidiary guide slot 116 preventing the FPC's connection part 151 from being damaged during passing the second hinge aperture 111 as taught by Wilcox. The motivation for the modification is to have doing so in order to guide the axial movement of cam 404 inside can 303.

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Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Murray (U.S. Patent No. 5,996,178) teach Hinge suitable for use in a foldable device, Steinhoff et al. (U.S. Patent No. 6,104,916) teach Hinge PIN and Ogura (U.S. Patent No. 6,189,056) teach Information processing terminal.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Md S Elahee whose telephone number is (703) 305-4822. The examiner can normally be reached on Mon to Fri from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (703) 305-4895. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M.E.

MD SHAFIUL ALAM ELAHEE
June 26, 2004

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